

## Descriptions of some new species of Geometridae.

By GEO. D. HULST.

### *Cidaria nocticolata*, *sp. nov.*

Expands  $1\frac{1}{4}$  inches. Head; front ash gray, above lighter.

Thorax gray, tegulae lined posteriorly with black. Abdomen brownish gray above, light gray below; legs ashen, the fore pair darker on tibiae and tarsi and on the latter striped round about with whitish; hind legs russety towards ends.

Fore wings, rather broad,—angulated at apex, exterior margin much rounded; color light gray, a broad indistinctly black band about  $\frac{1}{4}$  from base becoming obsolete posteriorly. A narrow line, dark, very faint, just within the discal spot which is black prominent. Another band beyond faint and hardly traceable and yet beyond a broad marginal band most distinct at apex and  $\frac{1}{3}$  from apex along outer margin. The inner edge of this band is deeply scalloped and the band is divided with a scalloped line of light ashen. Margin with narrow line of black.

Hind wings without lines—light towards base, darker faintly russet towards outer edge. Discal spot distinct.

Beneath much lighter than above. Discal spots apparent; third line on fore wings more distinct, the others less so. An indistinct median line on hind wings. Fringes light.

3 specimens, Colorado.

### *Cidaria semiatrata*, *sp. nov.*

Expands  $1\frac{1}{4}$  inches. Antennae, head, thorax and abdomen uniform ash gray.

Fore wings, much curved at apex which is sharply angulated, rounded on outer margin and at posterior angle; base black followed by a dark gray band edged with white lines indistinct except along costa; a triangular patch of black along costa formed by dark gray band beyond including discal spot, joining the first dark gray band at posterior part of wing; beyond another black band suffusing with preceding on inner side, distinct irregular swelling out at middle on outer side; then a light gray submarginal band containing row of black spots more distinct towards costa. Discal spot black distinct.

Hind wing light at base and anterior edge—ashen somewhat broken with white along outer and inner edges.

4 specimens, Colorado.

**Cidaria opacaria**, *sp. nov.*

Expands  $1\frac{1}{2}$  inches. Antennæ smoky black, palpi dirty gray. Thorax dark gray, tegulæ edged with black. Abdomen light gray.

Fore wings—light ashen at base, with black band  $\frac{1}{4}$  distance towards apex; this band is straight and distinct on inner side and fades rapidly into light gray on outer, this is followed by a distinct irregular scoloped black line the points turned outward and the one nearest middle of wing—protruded as a black dash across next space which is a broad not uniform dark gray band darkest within and towards the costa; then a waved line of black, edged outwardly with white; then a mixed dark and light submarginal band; a black spot at end of each vein, marginal line black, fringe gray.

Hind wings light gray with two faint indications of bands at center and beyond; marginal line black.

Beneath as above much subdued and both wings somewhat peppered with almost black atoms.

4 specimen Colorado.

**Cidaria mulleolata**, *sp. nov.*

Expands  $1\frac{1}{2}$  to  $1\frac{3}{4}$  inches. Antennæ gray, palpi dark brown, clypeus buff, thorax russet-gray, abdomen gray, with russet shade at middle.

Fore wings with broad reddish brown band occupying  $\frac{1}{3}$  length of wing; this is crossed by two faint black lines, and is edged outwardly with an irregular black line with points of scollops running outward at veins, joining the points of a scoloped black line beyond, making on the posterior part of the wings, oval inclosed spaces. The space between these lines is lighter with little or no reddish, save on the outer part; along the costa it becomes black; beyond this black a white edging and beyond this and along the outer margin a reddish band containing indistinct and broken lines; a blackish spot near posterior angle. Discal spot black. Hind wings almost uniform silky gray, with dark marginal line.

Beneath on a reddish gray ground very faint indications of markings above, except costal black mark which is distinct. Hind wings with two dark irregular parallel lines across middle, discal spot distinct.

2 specimens, Colorado.

**Scotosia multivagata**, *sp. nov.*

Expands  $1\frac{1}{2}$  inches. Antennæ dark, palpi russet, clypeus white; thorax and abdomen light gray; legs light buff, darker and circled with white near ends.

Fore wings crossed with many waved lines and bands; light at base,

followed by much waved parallel lines of dark ashen and light gray four of each, the lighter spaces slightly the wider. Then beginning  $\frac{1}{3}$  distance to apex a broad dark ashen band narrowing much posteriorly with indistinct lighter bands within; then two waved bands, first one light gray, second one dark waved, parallel with margin; then a light line, then a marginal brown ashen band. Fringes alternating light and dark gray. A faint russet yellow tinge sub-basally and in sub-marginal bands beyond discal spot.

Hind wings light at base with three ashen bands, the inner faint, the outer distinct and marginal.

Beneath almost uniform light ashen.

2 specimens, Colorado.

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### Habits of the larva of *Rhodophora* (*Alaria*) *florida*, *Guen.*

Many have long known that the larva of *Rhodophora florida*, feeds on the evening primrose, but few have succeeded in finding it, common as it is, and it has escaped even experienced collectors searching for it. They have all construed the expression "feeds on the evening primrose", to mean the leaves of that plant, while as a matter of fact our larva lives on, and partially in the buds. The *modus operandi* is as follows: A small hole, of a diameter barely equalling that of the larva is cut near the tip of the bud, and the larva then feeds downward, exposing itself less as it gets to the lower part of the bud. When one is emptied another is attacked, and so on until the larva is full fed. If it happens that the buds are all gone before that time, it still avoids the leaves, but attacks the seed capsules, which much resemble the buds, both in size and form, and leaves the empty capsule with a small hole near the tip, to explain matters to the initiated. The color of the larva is green like the bud it feeds on and with the same velvety appearance: the part outside of the bud or seed capsule is always extended longitudinally along it, so that it is not readily perceived. They are easily raised, and although I have been signally unsuccessful myself it was not because of any difficulty with the larvæ, but because I neglected the pupæ. The *imagines* are found early in the morning in the flowers of the preceding evening.

J. B. SMITH.